

REMARKS

Claims 1-28, and 30-54 are pending in the present application. Claims 1-28, and 30-54 have been rejected. Claims 1-28, and 30-54 have been amended. No new matter has been added. Accordingly, claims 1-28, and 30-54 are now pending in the present application.

SPECIFICATION

On page 3 of the present application the specification has been amended to clearly describe what was meant by "execution state" in the prior art.

Claim Rejections - 35 USC § 101

The Examiner states,

4. Claims 1-28, 30-54 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.
5. Claims 1,18, 23, 27, 30-40 and 49-54 discloses a mere nominal recitation of technology and fails to transform the underlying subject matter to a different state, therefore the claimed method is non-statutory and rejected under 35 U.S.C. 101 (*Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Floook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88(1876)).
6. Claims 2-17, 19-22, 24-28 and 41-48 are also rejected as each depends from the above rejected claims.

Applicant respectfully traverses these rejections.

Applicant has amended claims 1-28, and 30-54 to recite computer implemented methods and computer readable media wherein the computer performs a plurality of functions. Accordingly since the method and computer readable medium are tied to a specific machine, the claims are now clearly directed to statutory subject matter.

Claim Rejections - 35 USC § 103

The Examiner States,

8. **Claims 1-28, 30-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moskowitz et al. (US Patent 5,745,569) in view of Shur (US Patent 6,330,672).**

Applicant respectfully traverses these rejections.

Applicant respectfully submits that Moskowitz or Shur neither teach nor suggest wherein the execution state is the non-static state of the software object as it is being run on the computer with a particular input sequence, wherein the watermark is stored in the memory in combination with other elements of the independent claims. Moskowitz teaches that a watermark can be embedded in an initialized static data section of the text of a software object. The initialized values in this static data section may represent one or more non-executable digital samples of an analog music or video signal. Moskowitz teaches that a watermark embedded in a static data section may consist of licensing information and an essential code resource. After such a watermarked software object is instantiated, but before its essential code resource is required for execution, the essential code resource of this software object must be retrieved (by a process of watermark extraction) from its static data section. If an unknowledgeable adversary deletes or distorts the software data sections of the software object, or if the object's watermark-extracting code is damaged or inoperative, then the modified software object will be useless because it has a corrupted or unextractable version of its essential code resource. The watermark in the Moskowitz art is vulnerable to the following dynamic analysis by any adversary who knows, or guesses, the "key" required to retrieve the watermark from the

static representation of the software object. Such a knowledgeable adversary can attach a debugger to the execution state of the instantiated software object, retrieve a copy of the essential code resource, and then use this copy to create a modified text for the software object which has distorted or deleted watermarks. Applicant submits that Moskowitz et al only discloses encoded essential code resources that are stored in the static structure of the software. There is no disclosure, teaching or suggestion that a watermark is embedded in the execution state of a program. That is to say, there is no disclosure, teaching or suggestion of encoding that is only detectable by examination of the execution state of the software when a software is being run with the input sequence.

Accordingly, the Applicant respectfully submits that, as Moskowitz et al does not disclose a feature of the invention as claimed in claim 1, Moskowitz et al can not be combined with Shur to arrive at the invention as claimed.

Furthermore, Moskowitz et al describes a system which prescribes where the encoded data or source is located (refer column 6, lines 18 to 20 of Moskowitz et al). Recognition or extraction does not involve any search for the location of the encoded resource. Therefore, Moskowitz et al does not disclose the step of examining the execution state of the software objection when the software is being run with the input sequence.

Accordingly, the Applicant respectfully submits that, as Moskowitz et al does not disclose a feature of the invention as claimed in claim 1, Moskowitz et al can not be combined with Shur to arrive at the invention as claimed.

Applicant further submits that a person skilled in the art would not combine Moskowitz et al with Shur.

In Shur, there is secret input; this input is used to locate the watermark when a proof of ownership is required; and the watermark extraction key is never revealed to the end user. This is the usual security model for keyed watermarking. Thus the secret input to the invention is never revealed in the user.

By contrast, Moskowitz et al discloses encoding an essential code resource as a media watermark. The code resource is extracted from the watermark at runtime, with user input providing the key for the extraction process. Thus the system of Moskowitz et al has a nonsecret key. This is an uncommon security model for watermarking.

Therefore, the Applicant submits it is not obvious how to combine the art of Shur with that of Moskowitz et al. To do so would mean somehow replacing the Shur media-watermarking technique for Moskowitz's preferred "stega-cipher" (column 5, lines 20 to 22) method for watermarking media. In summary, for the reasons set forth above, Applicant respectfully submits that claims 1 to 28, 30 to 54 are patentable over Moskowitz et al (US 5,745,569) in view of Schur (US Patent 6,330,762).

Applicant notes that the Examiner considers claims 18 to 28 and 30 to 54 to be parallel with and contain the same limitations as claims 1 to 17. Accordingly, for the reasons above, the Applicant respectfully submits that

Moskowitz et al and Shur can not be combined to arrive at the invention as claimed in claims 18 to 28 and 30 to 54.

In view of the above arguments, the Applicant respectfully requests reconsideration allowance of claims 1 to 28 and 30 to 54 as now presented.

CONCLUSION

Applicants' attorney believes this application is in condition for allowance. Should any unresolved issues remain, Examiner is invited to call Applicants' attorney at the telephone number indicated below.

It is believed that all of the pending Claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending Claims (or other Claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any Claim, except as specifically stated in this paper, and the amendment of any Claim does not necessarily signify concession of unpatentability of the Claim prior to its amendment.

Respectfully submitted,

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